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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/717,554	11/21/2003	Osamu Nishimura	245874US2SRD	8475

22850 7590 02/20/2008

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EXAMINER	
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ART UNIT	PAPER NUMBER
2615	

NOTIFICATION DATE	DELIVERY MODE
02/20/2008	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	10/717,554	NISHIMURA ET AL.	
	Examiner	Art Unit	
	Jason R. Kurr	2615	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *20 November 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-22* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-22* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *20 November 2007* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

Claims 12, 19 and 21-22 are objected to because of the following informalities:

Claim 12 discloses on line 5 of the claim "the wall body". There is a lack of antecedent basis for this limitation.

Claims 19 and 21-22 disclose the limitation "the inner edge of the opening of the wall body". There is a lack of antecedent basis for this limitation.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 9 and 12 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Currently claims 9 and 12 are method claims, however they are structured as device claims. For example, claim 9 discloses, "a sound source measuring the controlled sound information ...". This claim language is unclear to the Examiner because it can not be determined whether "a sound source" is performing the measuring, or if the entire step of the method is labeled as "a sound source measuring" step. The Examiner suggests that the Applicant restructures the steps of the method

claims 9 and 12. An easy solution would be: "Claim 9: An active diffracted sound control method comprising: measuring controlled sound source information at a sound source measuring position ..." Claims 9 and 12 contain a plurality of such problems that render the claims as indefinite. Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-4, 9-14, 19 and 21-22 are rejected under 35 U.S.C. 102(e) as being anticipated by Yamashita et al (US 6,483,926 B1).

With respect to claim 1, Yamashita discloses an active diffracted sound control apparatus comprising: a sound source measuring device (fig.1,2 #1) arranged on a object sound source area side of a wall body (fig.2 #23) arranged between the object sound source area (fig.2 "upper story") and a sound receiving area (fig.2 "lower story") for measuring object sound information in the neighborhood of the wall body (col.2 ln.23-29); said object sound source area and said sound receiving area being within a same space and being separated by the wall body (fig.2), direct object sound measuring

device (fig.2 #10) arranged on the sound receiving area side of the wall body for measuring the object sound information in the neighborhood of the wall body (col.4 ln.19-30); a control sound source (fig.1,2 #9) arranged in the neighborhood of the wall body for generating a control sound to reduce the object sound at a virtual object sound measuring point in the sound receiving area (col.4 ln.6-19); and an object sound control device (fig.2 #12) for controlling the output of the control sound based on the output of the object sound measuring device (col.5 ln.47-57); wherein the object sound control device is operated on the basis of a first sound transmission characteristic between a direct object sound measuring point for the object sound source and the virtual object sound measuring point (col.4 ln.19-30) and a second sound transmission characteristic between the direct object sound measuring point for the control sound source and the virtual object sound measuring point (col.4 ln.64-67, col.5 ln.1-28).

With respect to claim 2, Yamashita discloses the active diffracted sound control apparatus according to claim 1, wherein the object sound control device alternates between a control section for generating the control sound and an identification section for obtaining a third sound transmission characteristic between the object sound source measuring device and the direct sound measuring device (fig.1 #5, col.4 ln.6-19).

With respect to claim 3, Yamashita discloses the active diffracted sound control apparatus according to claim 1, wherein the sound source measuring device, the direct object sound measuring device and the control sound source are configured integrally

and installed removably on the wall body. It is implied that the components of Yamashita are installed after the construction of floor and ceiling (#20,23) and so they would be capable of being removed from their mounted positions.

With respect to claim 4, Yamashita discloses the active diffracted sound control apparatus according to claim 1, wherein the control sound source is arranged at the upper end portion of the wall body (fig.2), and wherein the direct object sound measuring device is arranged within the distance of the shortest wavelength of the frequency of the object sound from the upper end portion of the wall body (col.4 ln.59-67, col.5 ln.1-3).

With respect to claim 9, Yamashita discloses an active diffracted sound control method comprising: a sound source measuring (fig.1,2 #1) the controlled sound information at a sound source measuring position in the neighborhood of a part of a wall body (fig.2 #23) which is nearer to a controlled sound source area (fig.2 "upper story"), the wall body being arranged between the controlled sound source area and a sound receiving area (fig.2 "lower story"), and the sound source measuring being performed using a sound source measuring device (fig.1,2 #1); said controlled sound source area and the sound receiving area being within a same space and being separated by the wall body (fig.2), a direct controlled sound measuring the controlled sound information at a direct controlled sound measuring position in the neighborhood of that part of the wall body which is nearer to the sound receiving area (fig.2 #10), the direct controlled

sound measuring being performed using a direct object sound measuring device (fig.2 #10, col.4 ln.19-30); a control sound generating a control sound, at a control sound generating position in the neighborhood of the wall body, for reducing the controlled sound at a virtual controlled sound measuring position in the sound receiving area, the control sound generating being performed using a control sound source (fig.1,2 #9, col.4 ln.6-19); and a controlled sound controlling the output of the control sound based on the output from the information of the controlled sound measured in the direct controlled sound measuring, the controlled sound controlling being performed using an object sound control device (fig.2 #12, col.5 ln.47-57); wherein the controlled sound controlling is operated based on a first sound transmission characteristic of the controlled sound between the direct controlled sound measuring position and the virtual controlled sound measuring position (col.4 ln.19-30), and a second sound transmission characteristic of the control sound between the direct controlled sound measuring position and the virtual controlled sound measuring position (col.4 ln.64-67, col.5 ln.1-28).

With respect to claim 10, Yamashita discloses the active diffracted sound control method according to claim 9, wherein said controlled sound controlling is executed alternately in a control section for generating a control sound and an identification section for producing a third sound transmission characteristic of the controlled sound between the controlled sound source measuring position and the direct sound

measuring position (fig.1 #5, col.4 ln.6-19).

With respect to claim 11, Yamashita discloses the active diffracted sound control method according to claim 9, wherein the control sound generating position is at the upper end portion of the wall body (fig.2), and wherein the direct controlled sound measuring position is within the distance of the shortest wavelength of the frequency of the controlled sound from the upper end portion of the wall body (col.4 ln.59-67, col.5 ln.1-3).

With respect to claim 12, Yamashita discloses an active diffracted sound control method comprising: a first sound transmission characteristic measuring a first sound transmission characteristic of a controlled sound between a direct controlled sound measuring position (fig.2 #1) in the neighborhood of a part of the wall body (fig.2 #23) nearer to a sound receiving area and a virtual controlled sound measuring position (fig.2 #10) on the part of the wall body nearer to the sound receiving area (fig.2 "lower story"), the wall body being arranged between a controlled sound source area (fig.2 "upper story") and the sound receiving area, and the first sound controlled sound; said controlled sound source area and the sound receiving area being within a same space and being separated by the wall body (fig.2), a second sound transmission characteristic measuring a second sound transmission characteristic of the control sound between the direct controlled sound measuring position and the virtual controlled sound measuring position, the second sound transmission characteristic measuring

being performed using a sound measuring device when performing control for reducing a sound pressure of a control sound (col.4 ln.64-67, col.5 ln.1-28); a sound source measuring the controlled sound information at a sound source measuring position, the direct controlled sound measuring being performed using a direct object sound measuring device (fig.2 #1); a direct controlled sound measuring the controlled sound information at the direct controlled sound measuring position, the direct controlled sound measuring being performed using a direct object sound measuring device (fig.2 #10); a control sound generating a control sound at a control sound generating position in the neighborhood of the wall body for reducing the controlled sound at the virtual controlled sound measuring position, the control sound generating being performed using a control sound source (fig.2 #9, col.4 ln.6-19); and a controlled sound controlling the output of the control sound based on the output from the information of the controlled sound measured in the direct controlled sound measuring, the first sound transmission characteristic and the second sound transmission characteristic, the controlled sound controlling being performed using an object sound control device (col.4 ln.64-67, col.5 ln.1-28).

With respect to claim 13, Yamashita discloses the active diffracted sound control method according to claim 12, wherein the controlled sound controlling is executed alternately between a control section for generating the control sound and an identification section for producing a third sound transmission characteristic of the controlled sound between the controlled sound source measuring position and the direct

sound measuring position (fig.1 #5, col.4 ln.6-19).

With respect to claim 14, Yamashita discloses the active diffracted sound control method according to claim 12, wherein the control sound generating position is at the upper end portion of the wall body (fig.2), and the direct controlled sound measuring position is within the distance of the shortest wavelength of the frequency of the controlled sound from the upper end portion of the wall body (col.4 ln.59-67, col.5 ln.1-3).

With respect to claims 19 and 21-22, Yamashita discloses the active diffracted sound control apparatus and methods of claims 1, 9 and 12 respectively, wherein the control sound source is located in the vicinity of the inner edge of the opening of the wall body (fig.2).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 5-8 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamashita et al (US 6,483,926 B1) in view of Shepherd et al (US 5,024,288).

With respect to claim 5, Yamashita discloses an active diffracted sound controller comprising: a sound source measuring device (fig.1,2 #1) arranged on a part of a wall body (fig.2 #23) between a controlled sound source area (fig.2 "upper story") and a sound receiving area (fig.2 "lower story") which is nearer to the controlled sound source area for measuring controlled sound information (col.2 ln.23-29); said controlled sound source area and said sound receiving area being within a same space and being separated by the wall body (fig.2); a direct controlled sound measuring device (fig.2 #10) arranged nearer to the sound receiving area for measuring the controlled sound information (col.4 ln.19-30); a control sound source (fig.1,2 #9) for generating a control sound for reducing the controlled sound at a virtual controlled sound measuring position in the sound receiving area (col.4 ln.6-19); and a controlled sound control device (fig.2 #12) for controlling the output of the control sound based on the output of the direct controlled sound measuring device (col.5 ln.47-57); wherein the controlled sound control device is operated based on a first sound transmission characteristic of the controlled sound source between a direct controlled sound measuring position and the virtual controlled sound measuring position (col.4 ln.19-30), and a second sound transmission characteristic of the control sound source between the direct controlled sound measuring position and the virtual controlled sound measuring position (col.4 ln.64-67, col.5 ln.1-28).

Yamashita does not disclose expressly wherein the device is arranged at the part of the wall having an opening.

Shepherd discloses a sound attenuation apparatus (fig.1A #2) wherein the apparatus is arranged at an opening (col.2 ln.65-68) in a wall (fig.1A #3).

At the time of the invention it would have been obvious to a person of ordinary skill in the art to arrange the apparatus of Yamashita within an opening of the walls as described by Shepherd.

The motivation for doing so would have been to make the apparatus easily accessible for maintenance purposes.

With respect to claim 6, Yamashita discloses the active diffracted sound controller according to claim 5, wherein the controlled sound control device is operated alternately in a control section for generating a control sound and an identification section for producing a third sound transmission characteristic of the controlled sound source between a controlled sound source measuring device and the direct sound measuring device (fig.1 #5, col.4 ln.6-19).

With respect to claim 7, Yamashita discloses the active diffracted sound controller according to claim 5, wherein the sound source measuring device, the direct controlled sound measuring device and the control sound source are configured integrally and adapted to be arranged removably on the opening. It is implied that the components of Yamashita are installed after the construction of floor and ceiling (#20,23) and so they would be capable of being removed from their mounted positions.

With respect to claim 8, Yamashita discloses the active diffracted sound controller according to claim 5, wherein the control sound source is arranged at the upper end portion of the wall body (fig.2); and wherein the direct controlled sound measuring device is arranged within the distance of the shortest wavelength of the frequency of the controlled sound from the edge portion of the opening (col.4 ln.59-67, col.5 ln.1-3).

With respect to claim 20, Yamashita discloses the active diffracted sound controller of claim 5, wherein the control sound source is located in the vicinity of the inner edge of the opening of the wall body (fig.2).

Claims 15 and 17-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamashita et al (US 6,483,926 B1) in view of Ohnishi et al (US 2001/0046303 A1).

With respect to claims 15 and 17-18, Yamashita discloses the active diffractive sound control apparatus of claim 1, however does not disclose expressly wherein the control sound source is located above the top of the wall body.

Ohnishi discloses an active diffractive sound control apparatus wherein the control sound source (fig.1a C1) is located above the top of a wall body (fig.1a B1). At the time of the invention it would have been obvious to a person of ordinary skill in the art to that the invention of Yamashita could be adapted to be used on a partition type wall and could be mounted in view of the teachings of Ohnishi. The motivation for doing

so would have been to reduce noise in walls along highways or railroad tracks as taught by Ohnishi (pg.1 [0003]).

Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yamashita et al (US 6,483,926 B1) in view of Shepherd et al (US 5,024,288) and in further view of Ohnishi et al (US 2001/0046303 A1).

With respect to claim 16, Yamashita discloses the active diffractive sound control apparatus of claim 5, however does not disclose expressly wherein the control sound source is located above the top of the wall body.

Ohnishi discloses an active diffractive sound control apparatus wherein the control sound source (fig.1a C1) is located above the top of a wall body (fig.1a B1). At the time of the invention it would have been obvious to a person of ordinary skill in the art to that the invention of Yamashita could be adapted to be used on a partition type wall and could be mounted in view of the teachings of Ohnishi. The motivation for doing so would have been to reduce noise in walls along highways or railroad tracks as taught by Ohnishi (pg.1 [0003]).

Response to Arguments

Applicant's arguments filed November 20, 2007 have been fully considered but they are not persuasive.

The Applicant has amended the independent claims to include the limitation wherein "said object sound source area and said sound receiving area being within a

same space and being separated by the wall body." The Examiner does not feel that such a limitation defines the present invention over the prior art made of record, mainly Yamashita et al (US 6,483,926 B1). The term "same space" does not exclude the two stories of Yamashita as shown in figure 2 as not being within the same space. In fact, the two stories are within the same space defined by the outer walls of the building, and separated by the wall body (fig.2 #20,23).

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason R. Kurr whose telephone number is (571) 272-0552. The examiner can normally be reached on M-F 10:00am to 6:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vivian Chin can be reached on (571) 273-7848. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JK
JK

VIVIAN CHIN
SUPERVISORY PATENT EXAMINER.